Atriplex canescens – (Ephedra viridis) / (Muhlenbergia porteri) Sandstone Sparse Vegetation [Provisional]

MAP CLASS	Moenkopi Sandstone Sparse Vegetation
COMMON NAME	Fourwing Saltbush – (Mormon Tea) / (Bush Muhly) Sandstone Sparse Vegetation
PHYSIOGNOMIC CLASS	Sparse Vegetation (VII)
PHYSIOGNOMIC SUBCLASS	Boulder, gravel, cobble, or talus sparse vegetation (VII.B)
PHYSIOGNOMIC GROUP	Sparsely vegetated rock flats (VII.B.2)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural (VII.B.2.N)
FORMATION	Boulder fields (VII.B.2.N.a)
ALLIANCE	Sandstone Sparsely Vegetated Alliance

CLASSIFICATION CONFIDENCE LEVEL Weak

USFS WETLAND SYSTEM Upland

RANGE

Wupatki National Monument

Fourwing Saltbush – (Mormon Tea) / (Bush Muhly) Sandstone Sparse Vegetation is the most common association in the sandstone sparse communities. This association was found in seven relevés sampled at Wupatki NM in the eastern half of the park. No relevés were sampled outside of Wupatki NM; however, this may be due to low numbers of relevés sampling outside of the national monument boundaries. Additional sampling outside the national monument boundaries may reveal more occurrences.

ENVIRONMENTAL DESCRIPTION

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This association's elevation ranged from 4,396-4,856 ft (1,340-1,480 m) (average 4,741ft/1,445 m). The topography ranged from small to steep slopes with 0-25% slope (average 14%). This association is specific to sandstone soils including bluffs, boulders, and shards.

MOST ABUNDANT SPECIES

Wupatki National Monument

Stratum	Species
Shrub	*Atriplex canescens, Ephedra viridis*
Herbaceous	*Muhlenbergia porteri*

ASSOCIATED SPECIES

Wupatki National Monument

Artemisia bigelovii, Artemisia dracunculus, Artemisia filifolia, Bouteloua curtipendula, Dasyochloa pulchella, Ephedra torreyana, Gutierrezia sarothrae, Isocoma drummondii, Pleuraphis jamesii, Rhus trilobata, Salsola tragus, Sporobolus airoides, Sporobolus flexuosus, Sphaeralcea hastulata, Stanleya pinnata

VEGETATION DESCRIPTION

Wupatki National Monument

Fourwing Saltbush – (Mormon Tea) / (Bush Muhly) Sandstone Sparse Vegetation total vegetation cover is 5-16% (average 11%) with 4-15% (average 9%) in the shrub layer and 1-6% (average 3%) in the herbaceous layer. The total species diversity ranged from 12-17 species (average 15) in the 7 relevés sampled.

The shrub layer was dominated by *Atriplex canescens* with 1-6% absolute cover (average 3%) and sometimes *Ephedra viridis* with 0-4% absolute cover (average 2%). The herbaceous layer could be dominated by *Muhlenbergia porteri* with absolute cover 0-4% (average 1%). *Atriplex canescens* must be present in this association, even with low percent cover. *Ephedra viridis* and *Muhlenbergia porteri* are often present; however, they do not necessarily need to be present within this sparse vegetation type.

CONSERVATION RANK G?

DATABASE CODE CEGL002927

MAP CLASSES
The association Fourwing Saltbush – (Mormon Tea) / (Bush Muhly) Sandstone Sparse Vegetation is represented by map class Moenkopi Sandstone Sparse Vegetation (map code 5).

The total area mapped within Wupatki NM is 1,811 ac (733 ha) within 543 polygons and the total area in the park environs is 717 ac (290 ha) within 146 polygons.

The map class Moenkopi Sandstone Sparse Shrubland was used to map all sparsely vegetated sandstone outcrops and soils. *Atriplex canescens*, used as an indicator for this association, does not necessarily have to be present for vegetation to be classified as this map class. Other vegetation types have been measured on the sandstone in the project boundaries, but have not been described as separate associations. For instance, the photointerpreters noticed that in some areas *Gutierrezia sarothrae* and *Rhus trilobata* were the dominant species within these sandstone sparse communities, without *Atriplex canescens* present. These areas were also included in the Moenkopi Sandstone Sparse Vegetation map class.

COMMENTS
Wupatki National Monument
Review of additional plot data on sandstone may reveal additional associations within the Sandstone Sparse Vegetation Alliance.